

ABSTRACT OF THE DISCLOSURE

A semiconductor wafer is disclosed in which a high concentration impurity layer is formed in a semiconductor wafer to a predetermined depth, in order to electrically connect electrodes formed on the principal face of the wafer without forming trenches and through holes in the wafer. An n^{++} diffusion region is formed in the dicing region of a semiconductor wafer by ion implanting or diffusion. The diffusion region extends to an n^{++} layer formed deep in the semiconductor wafer. The width of the n^{++} diffusion region is made wide enough to account for the blade width of a dicer, so that an n^{++} diffusion region remains at the outer periphery of each of the chips divided by the dicing operation. Bump electrodes on the wafer surface electrically connect with the n^{++} layer deep in the semiconductor through the n^{++} diffusion region.